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PROCEEDINGS
OF THE
BIOLOGICAL SOCIETY OF WASHINGTON

PLANTAE MONTROSENSIS.

I.

BY AVEN NELSON AND P. B. KENNEDY.

This first paper dealing with the plants of Mount Rose represents joint authorship, as shown above, in so far as the study of the material and the specific descriptions are concerned. The field work and the notes are all by the junior author, who spent two weeks of the summer of 1905 on Mount Rose studying and collecting its flora. This mountain is especially interesting from a botanical standpoint as it is a high spur of the Sierra Nevada Mountains strongly influenced by the dry atmospheric conditions existing on the eastern side. It may be taken as intermediate between the typical high mountains of the Sierras and those of the interior of the Great Basin. It is proposed to make an extensive ecological study of the flora of this mountain. The following new species were discovered while studying the first lot of material, all of which was collected between 10,000 feet elevation and the summit, which is 10,800 feet.

Eriogonum rhodanthum sp. nov.

Perennial, acaulescent, very low, caespitose, densely tomentose; the caudex made up of many strands twisted together like a rope, its numerous branches terminated by clusters of very small, new and old leaves: leaves 7 mm. long or less with petioles about 4 mm. long, tomentose on both sides, ovate to suborbicular: scapes very slender, from 12 mm.-5 cm. high, dark-red, covered with a loose white tomentum, and terminating in a flower cluster about 12 mm. across: involucre 2 mm. long, about 5, each with 8 densely tomentose, linear lobes: perianth rose-colored, 3 mm. long, its lobes broadly obovate, glabrous, with a single strong brown vein: pedicels 3 mm. long; filaments 1 mm. long, villous below: ovary glabrous.

It forms dense mats from 1-6 dm. across, on hard rocky ground. Summit of Mount Rose, Washoe County, Nevada, elevation 10,800 feet, No. 1184 (type), August 17, 1905, P. B. Kennedy.

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Allied to *E. anemophilum* Greene, but different in the character of the caudex, foliage, and color of the flowers.

***Eriogonum rosensis* sp. nov.**

Perennial, acaulescent, woolly-tomentose, caudex branched and covered with numerous (new and old) persistent leaves: leaves 6–12 mm. long, ovate, tapering to a petiole 4 mm. long, woolly-tomentose on both sides: scapes 1–several from each branch of the caudex, rather stout, minutely glandular-pubescent, 2–5 cm. high, each bearing a cluster of about 8 involucre: involucre tomentose, 8-lobed, 3 mm. long, each containing about 16 flowers; the pedicels 3 mm. long: perianths yellow, sometimes slightly tinged with red, 2 mm. long: lobes obovate, glabrous, with a peculiar swelling at the apex of each lobe: filaments about 2 mm. long, villous below: ovary glabrous, 3-winged.

Allied to *E. anemophilum* Greene: collected on the summit of Mount Rose, Washoe County, Nevada, elevation 10,800 feet, August 17, 1905, No. 1180 (type), P. B. Kennedy.

The plant forms dense, low, mats about 15 cm. across, growing where it can find a little soil among the lava rocks.

***Arabis depauperata* sp. nov.**

Perennial, about 8 cm. high in flower, considerably taller in mature fruit: root branched 2–3 cm. below the surface of the ground into a number of long, slender, wiry rootlets: stems many, very slender, from a much branched caudex; stems and leaves covered with a minute, stellate, pubescence; the numerous lower leaves small and tufted at the base of the stems, petioled, the upper cauline, sessile, 6–10 mm. long, ovate-lanceolate, entire: racemes 3 cm. or less long, bearing minute purple flowers, 3 mm. long; calyx lobes oblong, 2 mm. long; corolla lobes spatulate, rounded at the apex, and attenuate towards the base, 3 mm. long: mature pods 3–6 cm. long and 2 mm. wide, glabrous, purplish, with minute gray dots, mostly straight, though sometimes slightly curved; pedicels 4–6 mm. long: seeds flattish, orbicular, orange, 2 mm. wide, with an even yellowish-green very narrow winged margin extending completely around the seed.

Nearest to *A. platysperma* Gray, but quite different in the character of the whole plant, size of leaves, pods, seeds, etc.

Summit of Mount Rose, Washoe County, Nevada, elevation 10,800 feet, August 17, 1905, No. 1167 (type), P. B. Kennedy.

***Ribes Churchillii* sp. nov.**

Shrub 3–6 m. high, dense, unarmed; old branches ash-gray, new ones light brown: leaves densely viscid-glandular on both sides, 6–12 mm. broad, sub-orbicular, 3-lobed, crenate: petioles 6–20 mm. long, glandular: inflorescence 1–2-flowered, rarely 3-flowered; peduncles 12 mm. long; pedicels 1 mm. long or less: flowers subtended by 3 bracteoles which are ovate, and entire, or occasionally 3-toothed at the apex; calyx white,

shading to pink, 6–10 mm. long, sparsely beset with gland-tipped hairs, its lobes ovate, obtuse, reflexed, 2 mm. long; petals deltoid-reniform, 1 mm. long; stamens equalling the petals: berry viscid, red, not juicy, insipid, 10–14 seeded, ripening in September.

Type collected at the base of the Sierra Club monument at the summit of Mount Rose, Washoe County, Nevada: elevation 10,800 feet, being No. 1160, August 17, 1905, P. B. Kennedy.

Allied to *R. cereum* Dougl. but much smaller in regard to size of bush, leaves, and flowers, and much more viscid. The branches are extremely short and rigid. The berry in *R. cereum* is described as rarely containing more than 3 large seeds, while this has numerous, small, angular seeds.

Named in honor of Professor J. E. Church, Jr., who has ascended Mount Rose many, many times, both in the heat of summer and the heavy snows of winter, and to whom we are indebted for excellent specimens containing the ripe berries.

***Gilia montana* sp. nov.**

Perennial, depressed-caespitose, with a stout lignescent caudex: flowers capitate: leaves crowded on short tufted shoots, floccose-tomentose, mostly 5-lobed, a few at the base linear, bilobed, and trilobed; lobes linear-lanceolate, slightly pungent, 4–6 mm. long, with petioles about 6 mm. long, bearing a few scattered bracts, similar to the leaves: numerous purplish lobed bracts among the flowers: flowers numerous, white to pink, clusters 12–25 mm. across; calyx very slender, beset with long, slender hairs 4 mm. long, about equalling the tube of the corolla, calyx lobes linear-lanceolate, slender-subulate: each flower subtended by a linear-lanceolate bracteole; corolla 6 mm. long, tube about twice the length of the ovate rounded entire lobes: capsule ovoid, glabrous, 2 mm. long, one-seeded.

Allied to *G. caesotiosa* (Gray) A. Nels.; Summit of Mount Rose, Washoe County, Nevada, August 17, 1905, No. 1170 (type), P. B. Kennedy, at 10,800 feet; also from the same place, but past flowering, September 29, 1902, No. 694, P. B. Kennedy; also from Tinkers Knob, Eldorado County, California, Sierra Nevada, elevation 9,020 feet, August 10, 1901, P. B. Kennedy and S. B. Doten, No. 279.

***Phlox dejecta* sp. nov.**

Plant resembling a desert moss: tufts less than 3 cm. high: branches of the caudex somewhat tortuous: leaves linear, mucronulate, hirsute to pubescent, 4–6 mm. long, imbricated: corolla white, the tube twice as long as the calyx; corolla-tube 12 mm. long; calyx teeth prominent, rigid, hirsute, 5 mm. long, linear-lanceolate, with a very sharp spinulose tip: capsule ovoid, glabrous, 3 mm. long, one-seeded.

Allied to *P. bryoides* Nutt. and *P. muscoides* Nutt., but in no sense lanate or canescent, with a very different calyx and corolla. Growing abundantly in broad moss-like mats on the summit of Mount Rose, Washoe County, Nevada, at 10,800 feet, August 17, 1905, No. 1159 (type), P. B. Kennedy.

***Castilleja inconspicua* sp. nov.**

Perennial, with a caudex about 5 cm. long, which branches at the base into several roots: plants variable in height according to the elevation: At 10,000 feet about 15 cm. high, becoming gradually reduced to 5 cm. or even less at 10,800: stems and leaves pubescent and glandular, which increases in density with the elevation: leaves sessile, mostly linear at the base, becoming 3-7 cleft or parted toward the inflorescence, very variable in size, from 6-25 mm. in length: bracts subtending each flower 3-cleft to about the middle, 12-20 mm. long; flowers in an oblong spike, cream-colored, with a purple blotch; calyx villous, 12 mm. long, divided into 4 lanceolate-acuminate lobes 4-6 mm. long, greenish-purple; corolla 10 mm. long, galea triangular, obtuse, gibbous, slightly exceeding the lip which has 3 obtuse, rounded lobes, less than 2 mm. long: stigmas capitate, 2-lobed, slightly exceeding the galea; capsule glabrous, 8 mm. long, about 40-seeded.

Allied to *C. rubida* Piper.

Summit of Mount Rose, Washoe County, Nevada, No. 1169 (type), August 17, 1905, P. B. Kennedy, at 10,800 feet; also No. 1144 of same place and date, but at 10,000 feet.

***Hulsea caespitosa* sp. nov.**

Plant about 3 dm. high, forming tufts a third of a meter across: densely pubescent, and strongly viscid-glandular, emitting a disagreeable odor; the involucre only lanate: perennial, deep rooted, branching several times: divisions of the caudex terminated above ground by several leafy branches; around the base of each branch persist the brown, dried up petioles of the previous year's growth, appearing like scales: radical leaves from 4-8 mm. long, lacerate-dentate above, much constricted and entire at the middle, and expanding into a broad light-colored sheathing base, 8-10 mm. wide: flowering stems leafy, usually one from the center of each tuft of leaves, the cauline leaves gradually becoming smaller towards the head: head $2\frac{1}{2}$ cm. or more across, orange-yellow, involucre lanate, of numerous bracts, in 3 ranks; outer, oblong, 10 mm. long; inner, a little longer, attenuate-acute, with rather long, gland-tipped hairs towards the apex; ray flowers about 30; ligulate corolla about 12 mm. long, with gland-tipped hairs below, apex variable, unequally 3-lobed; disk flowers glandular, 7 mm. long, with 5 equal lobes; palae very small, less than 1 mm. long, fimbriate: achene 6 mm. long, covered with villous hairs which partly obscure the palae.

Allied to *H. nana* Larsen Gray and *H. algida* Gray.

Summit of Mount Rose, Washoe County, Nevada, at 10,800 feet; in pockets of soil among loose volcanic rocks, No. 1158 (type), August 17, 1905, P. B. Kennedy.

***Raillardella Nevadensis* sp. nov.**

Rootstocks very stout for the size of the plant; extensively creeping: leaves glandular on both sides, 12-24 mm. long, oblanceolate, entire: scape 2-8 cm. high; peduncle and involucre viscid-glandular, much more so

than the leaves; head about 16-flowered, 2 cm. long; involucre narrowly campanulate; bracts linear-lanceolate, 12 mm. long, slightly held together by the glandular hairs on the margins: flowers orange-yellow, no rays; pappus-bristles about 18, short plumose, white, 8 mm. long: achene black, about 6 mm. long, narrowly oblong.

Allied to *R. scaposa* Gray: abundant in loose granitic soil on Mount Rose, Washoe County, Nevada at 10,000 feet, No. 1147 (type), August 17, 1905, P. B. Kennedy.

***Chrysothamnus monocephala*.**

Very low, about 3 dm., shrubby; branches short and rigid: stems and leaves covered with a fine, short, close tomentum; the young, new shoots very densely so, appearing white, the others dark gray: leaves linear, the longest about 18 mm., 1-nerved, mucronate, the upper ones sometimes exceeding the inflorescence, and gradually merging into the involucre bracts: heads mostly solitary, terminal, 5-6 flowered; bracts about 10, rigid, imbricated in two equal ranks, usually 1-nerved, outer ones keeled, 8-10 mm. long, broadly lanceolate, with a prominent acuminate cusp, yellowish, striped or mottled with purple; covered with loose cobwebby hairs: pappus-bristles numerous, of unequal lengths, the longest about 8 mm., very minutely villous, light-yellow; corolla 9 mm. long; achene densely silky-villous, 3 mm. long.

Allied to *C. Nevadensis* (Gray) Greene, but leaves not oblanceolate or 3-nerved; involucre bracts not 5-ranked, and tips not recurved.

Summit of Mount Rose, Washoe County, Nevada, August 17, 1905, No. 1171 (type), at 10,800 feet; also No. 697 from same place, but at 10,000 feet, September 29, 1902, P. B. Kennedy.

